

What is claimed is:

1. A method for purifying carbon dioxide from a hydrocarbon gas mixture comprising the steps of:

removing water from the hydrocarbon gas mixture;

separating the hydrocarbon gas mixture into vapor, light liquid, and heavy liquid phases to remove the light liquid;

distilling the separated vapor phase to remove light hydrocarbons therefrom and produce liquid carbon dioxide; and

polishing the liquid carbon dioxide.

2. A method of producing BTEX fuel from a hydrocarbon gas mixture comprising the steps of:

removing water from the hydrocarbon gas mixture

separating the hydrocarbon gas mixture into vapor and liquid phases;

heating the liquid phase to approximately 80° F and separating the heated liquid phase in a three-phase high pressure tank into vapor, water, and liquid hydrocarbon phases, the liquid hydrocarbon phase including the BTEX hydrocarbons; and

drawing the liquid hydrocarbon phase including the BTEX hydrocarbons off of the water phase in the high pressure tank; and

stabilizing the liquid hydrocarbon phase from the high pressure tank in a two phase tank at a pressure lower than the pressure in the high pressure tank, thereby further separating vapor from the liquid hydrocarbon phase to produce BTEX fuel therefrom.